

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: **TBD**

Region: Raleigh Regional Office
County: Halifax
NC Facility ID: 4200170
Inspector's Name: Dawn Reddix
Date of Last Inspection: 04/17/2019
Compliance Code: 3 / Compliance - inspection

Facility Data Applicant (Facility's Name): Rosemary Power Station Facility Address: Rosemary Power Station 120 West 12th Street Roanoke Rapids, NC 27870 SIC: 4911 / Electric Services NAICS: 221112 / Fossil Fuel Electric Power Generation Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V				Permit Applicability (this application only) SIP: 02D .1111, 02Q .0317 NSPS: n/a NESHAP: Subpart JJJJJ PSD: n/a PSD Avoidance: n/a NC Toxics: n/a 112(r): n/a Other: Removed GACT avoidance, Removed GACT Subpart ZZZZ			
Contact Data				Application Data			
Facility Contact Brian Stuver Technical Consultant (804) 273-4619 5000 Dominion Boulevard Glen Allen, VA 23060	Authorized Contact Mohammed Alfayyoumi Station Director (804) 801-3300 5000 Dominion Boulevard Glen Allen, VA 23060	Technical Contact Andy Gates Environmental Consultant (804) 273-2950 5000 Dominion Blvd Glen Allen, VA 23060	Application Number: 4200170.19A Date Received: 07/30/2019 Application Type: Modification Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 06586/T19 Existing Permit Issue Date: 02/09/2018 Existing Permit Expiration Date: 07/31/2022				
Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2017	0.6000	91.83	1.50	2.54	4.42	0.2386	0.1819 [Formaldehyde]
2016	---	45.93	0.8500	1.16	2.22	0.1118	0.0834 [Formaldehyde]
2015	4.00	71.66	0.2800	0.8500	0.6300	0.0454	0.0208 [Manganese & compounds]
2014	18.60	56.33	2.75	3.52	3.72	0.2876	0.1226 [Manganese & compounds]
2013	0.3100	49.98	0.8200	1.40	2.50	0.1230	0.0907 [Formaldehyde]
Review Engineer: Russell Braswell Review Engineer's Signature: _____ Date: _____				Comments / Recommendations: Issue 06586/T20 Permit Issue Date: TBD Permit Expiration Date: July 31, 2022 (no change)			

1. Purpose of Application:

Rosemary Power Station ("RPS") currently operates a power plant in Halifax County under Title V permit 06586T19. The existing permit allows RPS to operate a temporary natural gas/No. 2-fired boiler (ES-TEMP) as needed for freeze protection during winter months. The existing permit also contains a specific condition that requires RPS operate this boiler such that it meets the definition of "temporary" under 40 CFR Part 63, Subpart JJJJJ. After reviewing this definition and current operations at the facility, RPS has determined this boiler should be considered "seasonal" under this rule. RPS has submitted this application in order to make this modification in the permit.

In addition, RPS stated that the emergency generator (ES-5) and sulfuric acid storage tank (IS-SA1) have been permanently deactivated and should no longer be included on the permit.

2. Application Chronology:

- July 30, 2019 Application received in Raleigh Central Office.
- August 20, 2019 An initial draft of the Title V permit and associated review were sent to DAQ staff (Mark Cuilla, Tom Anderson, Samir Parekh, Dena Pittman, Ray Stewart) and to RPS staff (Andy Gates, Mohammed Alfayyumi). See Attachment 2 for a summary of comments received.
- XXXXX The Public Notice and EPA Review periods began.
- XXXXX The Public Notice period ended.
- XXXXX The EPA Review period ended.
- XXXXX Permit issued.

3. Discussion:

a. Applicability for 40 CFR Part 63, Subpart JJJJJ:

40 CFR Part 63, Subpart JJJJJ specifically states that a boiler is not *temporary* if:

"The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more."

RPS plans to have a portable boiler brought to the facility every year, and as such there will never be a consecutive 12-month period where the function of freeze protection is not fulfilled by a portable boiler.

Therefore, the boiler ES-TEMP will not meet this definition.¹ Instead, RPS claims that ES-TEMP should be considered a "seasonal boiler" under Subpart JJJJJ:

"Seasonal boiler means a boiler that undergoes a shutdown for a period of at least 7 consecutive months (or 210 consecutive days) each 12-month period due to seasonal conditions, except for periodic testing. Periodic testing shall not exceed a combined total of 15 days during the 7-month shutdown. This definition only applies to boilers that would otherwise be included in the biomass subcategory or the oil subcategory."

RPS plans to operate the boiler only during the winter months, which allows for a 7-month shutdown, and thus allows the boiler to be considered seasonal under Subpart JJJJJ.

In general, this rule requires seasonal boilers to be tune-up once every five years and be operated with good work practices. Records of tune-ups, fuel use, and notifications must be kept. The rule requires a report once per 5-year period. DAQ has determined that the annual compliance certification required by General Condition P will be sufficient to meet the reporting requirement.

Compliance with this rule will be determined during subsequent inspections of this facility by DAQ.

b. Removal of emergency generator (ES-5):

The application stated that this generator has been permanently deactivated. Therefore, references to rules that only applied to this generator (e.g. GACT Subpart ZZZZ) have been removed from the permit. See the next section for changes to potential emissions due to this change.

4. Facility Emissions Review

When the boiler (ES-TEMP) was initially added to the Title V permit, potential emissions were conservatively calculated based on 8,760 hours operation. Therefore, changing the status of ES-TEMP from "temporary" to "seasonal" will not increase potential emissions from the facility that were previously calculated. This application did not propose recalculating potential emissions from the boiler.

The sulfuric acid storage tank (IS-SA1) previously has had negligible emissions, so removing it from the permit will not affect potential emissions.

Emissions from the emergency generator (ES-5) have previously been calculated based on 500 hours per year. Potential emissions from this facility will be reduced by the amounts calculated in the table below. In addition, the deactivation of ES-5 will reduce hourly emissions for the purposes of PSD increment tracking.

¹ 40 CFR Part 60, Subpart Dc contains a different definition of "temporary boiler". RPS can still meet the definition of temporary boiler with regards to Subpart Dc.

Pollutant	Emission Factor*** (lb/hp-hr)	Potential Emissions (ton/yr)	PSD Increment Tracking (lb/hr)****														
NOx	2.40E-02	6.03E+00	1.38														
CO	5.50E-03	1.38E+00															
SO2	1.21E-05	3.05E-03	0.0007	<table><tr><th colspan="2">Constants and Factors</th></tr><tr><td>operation</td><td>500 hr/yr</td></tr><tr><td>fuel sulfur***</td><td>0.0015 %</td></tr><tr><td rowspan="3">generator capacity</td><td>750 kW, or</td></tr><tr><td>1006 hp</td></tr><tr><td></td></tr></table>				Constants and Factors		operation	500 hr/yr	fuel sulfur***	0.0015 %	generator capacity	750 kW, or	1006 hp	
Constants and Factors																	
operation	500 hr/yr																
fuel sulfur***	0.0015 %																
generator capacity	750 kW, or																
	1006 hp																
PM	7.00E-04	1.76E-01	0.04														
VOC	6.42E-04	1.61E-01															
high HAP (benzene)	5.43E-06	1.37E-03															
total HAP	1.23E-05	3.09E-03															

- * Emission factors for non-HAP taken from AP-42, Table 3.4-1. Assumes that VOC is equal to the sum of all non-methane total organic compounds.
- ** Emission factors for HAPs taken from NC DAQ's publicly available spreadsheet "Large Diesel and All Dual-Fuel Engines Emissions Calculator LGD2012 Revision J - 6/22/2015"
- *** Assumes the use of 15 ppm ultra-low sulfur diesel.
- **** Average hourly emissions based on 500 hours per 8,760-hour period.

5. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. Virginia is an affected State, and there are no affected local programs.

The Public Notice and EPA Review periods began on XXXXX

6. Recommendations

TBD

Attachment 1 to review of application 4200170.19A
Rosemary Power Station

Change List

Page No.*	Section*	Change
Throughout	Throughout	<ul style="list-style-type: none">Updated dates/permit numbers.Removed references to minor modifications because all relevant dates have passed and the Title V permit has subsequently gone through the Public Notice / EPA Review process.
n/a	Insignificant Activities (former)	<ul style="list-style-type: none">Removed this section because all insignificant activities have been removed from the permit.
3	1.	<ul style="list-style-type: none">Removed emergency generator ES-5.Noted that ES-TEMP is "seasonal", and subject to GACT Subpart JJJJJ.
n/a	2.1 D. (former)	<ul style="list-style-type: none">Removed this section because the sources it covered have been removed from the permit.
7, 8	2.1 E. (former) and 2.1 F. (former)	<ul style="list-style-type: none">Renumbered these sections.
9 - 13	2.1 E.	<ul style="list-style-type: none">Added condition for 02D .1111 (GACT Subpart JJJJJ)Removed condition for avoidance of 02D .1111.
24	3.	<ul style="list-style-type: none">Updated General Conditions to v5.3.

* This refers to the current permit unless otherwise stated.

Attachment 2 to review of application 4200170.19A
Rosemary Power Station

Comments received on initial draft of 06586T20

- Mark Cuilla, by email on August 22, 2019

The email pointed out minor typos in the permit and review.

Response: Fixed.

- Andy Gates, by email on September 3, 2019

The email pointed out two issues:

1. On page 14 of the redline permit, draft condition 2.1.E.4.d should state that compliance shall be achieved upon initial startup. The regulation citations are correct but the draft condition should not require retroactive compliance.
2. The statement of basis should be clarified to note that neither the sulfuric acid tank nor the emergency diesel generator have been removed from the facility but rather that they have both been rendered inoperable.

Response: I have corrected the compliance date in Section 2.1 E.4.d. I have corrected the statement of basis regarding the sulfuric acid tank and emergency generator.